

THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

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Climb!
Climb!
Climb!

Blue-Water Follies

When Do You Cross the Line?

approach

The Naval Safety Center's Aviation Magazine

November 2001 Volume 46 No. 11

On the Cover FA-18 launches an AIM-7 sparrow missile.

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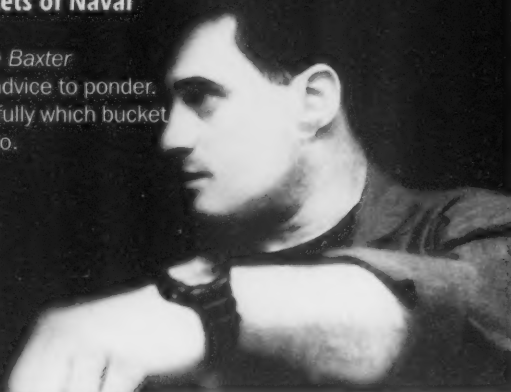
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Three Buckets of Naval Aviation

This old guy obviously had been to those faraway places where few men boldly go, and fewer still return from.

by Cdr. Steve Baxter

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any years ago, as a flight student, I was fortunate to have more than my share of good instructors. They would offer advice, encouragement and when needed, a healthy dose of motivation.

Each had his own style. Some used soft-spoken, clever phrases. Others favored vein-popping, ICS-distorting tirades.

One teacher took a moment out of his busy day to explain his three-bucket theory to me. This old guy (he must have been nearly 30) obviously had been to those faraway places where few men boldly go, and fewer still return from.

He held my undivided attention when he mentioned the three buckets of naval aviation



Photo by PHAN James K. McNeil
Modified by Allan Amen

during a debrief one day. After all, my pink sheet was sitting within reach of the black-and-silver Skilcraft resting in his gnarled paw.

"Let me tell ya about these buckets," he said, saltiness and JP-5 dripping from every word.

"Yes sir," I squeaked.

"These buckets are standard issue once ya get to your first fleet squadron. You carry them with you every day for the rest of your career." His eyes reflected the pain of 11 months on Yankee Station, so I knew he spoke the truth. I had no idea what he was talking about (my mind still raced from shooting sloppy point-to-points an hour earlier).

"The first one," he said, "is called the experience bucket. That one, when ya first get it issued, is empty. Nothing in it. Not a drop." I figured that made sense. I knew I had a long way to go from my radial interceptor to a fleet airplane, whatever that was going to be.

He continued, "The experience bucket begins to fill from the moment you walk into your first ready room, whether you know it or not. Every time you go to work, it gets a bit fuller." I was beginning to understand. He took a sip from a stained coffee mug and a long drag on an unfiltered cigarette. "As it fills, whatever is in there is available to use when you might need it, later on."

I asked what he meant by that. "You see, while waiting in marshall on some dark and scary night in the IO, you'll need that pail. You'll reach into it, and the knot in the pit of your stomach will get a lot smaller, trust me." He mentioned something about a slider at that point, but I figured it was some term from the olden days.

"The second bucket is labeled knowledge. Just like the first one, this one is empty when it's issued."

"How do I fill this one up?" I asked, in my whiney, ensign voice. I didn't like the answer.

"This one is not like the first. This one you can only fill by hard work and study," he replied. I was disappointed because I thought I was done studying once I got those Wings of Gold. He talked

about stuff like NATOPS and 4790, and a bunch of other pubs that I pretended to know. I just figured I'd put the names in my experience bucket and pull 'em out to impress some other new guy.

"That knowledge bucket," he went on, "will really come in handy. Scary thing about that one though."

"Jimminy," I thought, "if he says it's scary, what's next?"

The lieutenant continued. "With the knowledge bucket, if you don't keep it refreshed by study, it begins to dry up. It'll go completely empty if you don't work at keeping it full. When you need to reach into it and it's empty, you'll be in a hurt locker." I didn't know what a hurt locker was, but I was pretty sure I didn't want to be there. I made it a point to begin filling up my knowledge bucket ASAP (I had learned that acronym earlier that day).

He continued, "The third bucket is labeled luck. This one, unlike the other two, is filled to the brim on the very first day you get it." Interesting, I thought. "The luck bucket is the one you *don't* want to reach into very often. Unlike the others, once you take something out of the luck bucket, it's gone. Can't put it back. It's much better to reach into one of the other two and leave this third one for those times when you *really* need it." Sounded like good advice. "I've had to reach into that last one a couple of times," he said. His eyes kind of glazed over, and I could have sworn I heard the razor-sharp growl of a missile-tracking radar. "Anyway," he returned from that faraway place, "you don't want to reach into that luck bucket when the other two are sitting there right next to it."

I left the debrief without a pink-sheet that day, but I figured the two "belows" I got for those tortured point-to-points were worth it. Sure, I had learned a thing or two about radial-magnetic indicators and that the tail rises (or does it fall?), but I was more intrigued by the three-bucket theory. For just a little while, until my next flight, I felt as if I was slightly ahead of the power curve (I had learned that term earlier, too).

Cdr. Baxter is the commanding officer of VAQ-136.

I had been out of the cockpit for four years and, statistically speaking, was about as high risk for a mishap as you could find. I completed a quick Cat. IV FA-18 syllabus at the FRS. While an FRS student, I also was conducting XO duties, travelling to Hornet Executive Steering Committee meetings, attending SHARPs, and fulfilling the requirements of XO charm school.

One night when no VFA-147 JOs were available to fly a red air (adversary support)

Constellation. Since we were in the midst of fog season, I also checked NAS China Lake, our primary divert. Everything seemed fine, until I realized I had no clue what time their field closed. I queried the Argo ODO, and he said China Lake should be open until midnight.

His "should" didn't reassure me very much, so I pulled out my IFR Supplement, got the phone number, and called China Lake Base Ops. "Field shuts down at 2230," was the reply. That was good info to know, as the strikers had a

Playing Hide and Go Seek on an Emergency Divert

sortie in Superior Valley, I was called to fill in. I was grateful for the flight time and glad to be back in the squadron where I had served my department head tour. I was reassured to see I was flying on the wing of one of the community's strongest sticks—the 2000 Carrier Aviator of the Year.

While the flight lead prepared the tactical portion of the brief, I double-checked the weather and NOTAMS. The NOTAMS were OK, but the weather was marginal. When airborne, we would check if the range was useable for the strike coming in off the USS

TOT of 2220 to 2230, aligned precisely with when we should be flying by China Lake on our way home.

We headed over the mountains toward Superior Valley. The weather-guessers were right: There were thin layers of milky clouds from 5,000 to 25,000 feet. As we passed the mountains and hit the desert target area, the weather lifted enough for us to clear the range and work the low end of the 10,000-to-15,000-foot block. With no moon and working under a hazy overcast, it was dark as could be.

The strikers were late getting to the target area. After a 10-minute delay, they called inbound, and we commenced our run. We hadn't gone 30 seconds when I heard that familiar deedle-deedle of the master caution.

The DDI showed a hyd 1A caution, but the pressure still checked good. I reported it to the flight lead, and he promptly knocked off the run and passed me the lead.

As luck would have it, our run had us headed almost directly for China Lake. How-

engine back to idle to conserve remaining hydraulic fluid. The good news was I was now only 20 miles from the field, and hyd 2 was holding strong; this was going to be a no-brainer.

I fumbled through my nav bag and grabbed my China Lake approach plate. I knew I wouldn't have to shoot an approach, but I needed to know the minimum safe altitude in all sectors, since the hills around the field were invisible in the darkness. "Got it—that's my min alt," I said.

ever, the first thought that crossed my mind—a thought which numerous aviators have had in this situation—I knew better. As if my flight lead sensed my internal debate, he said over aux freq, "You are going to China Lake, aren't you?"

"Affirmative," I replied.

It was as dark as the ace of spades. As I reached for my nav bag, I saw the hyd 1A caution flip to hyd 1B. "Oh great," I thought. "I'm losing fluid and the system doesn't know where from, so it's trying to isolate the leak." I sucked the left

Then I was back in the nav bag, fumbling for my NATOPS pocket checklist. After what was only a moment but seemed like an eternity, I found the hydraulics section.

Suddenly a sickening thought hit me. What time is it? I looked at my clock—2229. Quickly, I called China Lake Tower on 340.2.

"Tower, Jason 41, 15 southeast on an emergency divert," I called.

"Roger, Jason 41. I was just turning the field lights off. Are you in need of an arrested landing?" tower responded.

"Negative, I just need to put it on deck," I responded.

"Roger, controllers have gone home, but I'll keep the lights on for you. Landing runway 14," tower said.

Whew! I went back to my pocket checklist. The hyd 1B was accompanied by a FCS caution light and a left-leading-edge flap channel 1 and 4 failure. I knew there were warnings in the NATOPS about such a situation, but I couldn't remember whether or not they called for resetting the FCS. I fumbled in the darkness, flying with one engine at idle, trying to set up on the duty runway, which was 180 degrees out from where we were, trying to read the checklist, that promptly slid off my kneeboard and fell to the deck.

I was now officially behind the jet.

Then I remembered: aviate, navigate, and communicate. With a good hyd 2, all I had to do was get my landing gear down and fly to touchdown.

With this simplified plan, I slowed below 250 knots and dropped the gear handle and flaps. Problem was, I neither heard nor felt the familiar clunk. I looked for gear indication; none down. Bright red light in the gear handle. I looked again at the gear handle and double-checked hyd 2 pressure. Handle down, 3,000 psi.

It didn't make any sense, hyd 2 controls the gear, not hyd 1. I had a hyd 1 problem, not hyd 2. The gear should have extended.

I reported the predicament to my flight lead and asked him to back me up with the book. He was having so much trouble flying wing in the pitch darkness that he couldn't fly and read effectively at the same time.

"Tower, Jason 41. We're having some additional problems here. Do you have a freq for VX-9 base?" I called. I got the freq and called VX-9, but there was no answer. Everyone had gone home for the night.

"Tower, does anyone have a big book who can help us out?" I requested.

"Jason 41, what's a big book?" tower asked.

"Sorry tower. We need a pilot with an FA-18 NATOPS manual to help us out," I replied.

"Stand by."

I could tell this was going to be a long standby. It was past field-closing time, and everyone had gone home. We were on our own.

Flight lead made the call, "Recommend we elevate. There are hills just east of the field."

Great call, but I informed him I'd already checked our min safe altitude, and we were OK. At least I'd done that right.

As I was doing the comm shuffle between VX-9 base and tower freqs, flight lead started reading the hyd 1B procedures from the pocket checklist. No reset on the FCS: Shut down the engine if dual hyd 1A-1B failure. Luckily, things weren't that bad yet, and I was already min power on the engine.

The most important business now was to blow down the landing gear, regardless that all indications were that I shouldn't have to. I slowed below 180 knots, aware that my leading-edge flaps were not extended fully.

I blew the gear. I got one green, then two green. The NATOPS FCF chapter says it may take up to 30 seconds for the gear to extend fully. I swear the last main gear took 29.99 seconds if it took one second.

I was ready to put down the plane, regardless of what little notes we did or did not know from the big NATOPS.

I looked at my hyd pressure gage—hyd 2 held steady at 3,000 psi. I realized that if I took a trap, the only person working at the field was the person in the tower. I could spend the rest of the night sleeping in the wires, waiting for someone to come out and tow me in.

I looked at my fuel gage: 3.9. Still plenty of fuel for a couple of passes.

I would try a normal landing. If the brakes, powered by hyd 2, failed on landing rollout, I would make one attempt with the emergency brakes. If they failed, I had enough gas to execute a go-around and make two attempts at a trap.

"Tower, Jason 41, 5 miles northwest for the straight-in runway 14," I called.

"Roger, Jason. Cleared to land runway 14," tower replied.

My flight lead said on aux, "Recommend you take a trap."

I relayed my plan, and flight lead concurred. Then he pitched in, "Recommend you go hyd ISO override to fully charge the brake accumulator."

Gouge! That's why he's the Carrier Aviator of the Year!

I looked at my DDI, which now indicated both hyd 1A and hyd 1B cautions. I was too close to the field at this point to shut down the left engine.

"Jason 41, tower," tower called.

"Go ahead, tower," I replied.

"I have the ASDO from Weapons Test Squadron on the phone, and he has his ODO on another phone from home. He has a NATOPS and requests you relay your problem," tower said.

I thought about leveling off and starting the tower-ASDO-ODO phone relay. But I looked at my fuel, realized I had a plan, and told tower, "Negative, I'll be on deck in one mike."

The straight-in seemed an eternity. On the way down I kept thinking, why did I have to blow down the gear? Is there a hyd 2 problem? If so, then the normal brakes aren't going to work. Remembering that the emergency brake and parking brake handle in the FA-18 are one and the same, I must have grabbed the handle 50 times in that last five miles. "Emergency brakes," I told myself, "not parking brakes." I could see the worst-case scenario in my mind: Passed up the arresting gear, set the parking brake at 100 knots, blew both tires, FODed both engines, skidded off the runway, flipped the jet, and killed himself...

I was in close now. Threshold, runway, touchdown. Hyd 2 pressure holding... 120 knots, tap the brakes—nothing. Hyd 2 pressure fluctuating wildly... 100 knots, stand on the brakes—nothing. Pull the emergency brake handle, lightly touch the pedals...

Good grip, big sigh of relief. Ride it to a full stop.

No brakes, no nosewheel steering, but still no hyd 2 caution on the DDI.

"Tower, I'm going to need a tow off the runway," I said.

What went wrong? My jet had a leaking hydraulic-drive unit (HDU), the mechanism that drives the leading-edge flaps up and down. The left leading-edge flap, driven by hyd 1B, has a hyd 2A backup. When the HDU started leaking, the system tried to isolate which hydraulic circuit the leak was in; therefore, the switch from hyd 1A to hyd 1B cautions. Since hyd 1 couldn't drive the leading-edge flaps, hyd 2A tried to help. However, a failed switching valve allowed fluid from the hyd 2 system to migrate into the HDU. As a result, the leaking HDU was draining both hyd 1 and hyd 2. That's why my landing gear wouldn't extend normally.

Why didn't I recognize the hyd 2 failure? Not only was the HDU dispensing my hydraulic fluid, but my hyd 2 fluid-level sensors had failed as well. I had lost all of my

hyd 1 fluid and nearly all of my hyd 2 fluid, but the DDI indicated no hyd 2 problem. Despite the fact that the jet indicated a good hyd 2 system, I was actually minutes, or seconds, away from losing that jet.


I relearned that a safe flight starts with thorough preflight. Know your divert-field information—cold. Prior to briefing, the weather and NOTAMS checked good at China Lake. However, if I had not checked the field-closing time when in doubt, I may well have radioed China Lake one minute too late. My aircraft may not have made it to the secondary divert field at Edwards AFB. By the way, anyone who tries to take a jet with a hydraulic failure across the mountains is a fool.

Have a clear plan of action in an emergency situation. Know your NATOPS, and ask for help from ODOs, flight members, and anyone else who can help when you need it. But be ready to make a sound and timely decision, based on your systems knowledge, when help is limited or not available.

As for my flight lead, my hat's off to him. He backed me up and gave me important info. He knocked off the engagement when the problem was reported and promptly passed me the lead. As we began descending, he reminded me to check my altitude and the terrain. He backed me up to the best extent possible, given the flight conditions, with the pocket checklist. He advised me to take a trap and then didn't try to talk me out of my plan when he realized my plan made sense. He reminded me to go hyd ISO override to recharge my accumulators prior to landing. But most importantly, he supported me when I needed him, kept his mouth shut when I didn't, and didn't try to fly my jet. I couldn't have asked for better aircrew coordination, given the conditions.

And as for China Lake Tower, the lone person there did a great job linking the phone chain to get an ODO with a NATOPS manual on the line. The timing wasn't perfect, but the initiative was outstanding.

I should have taken a trap, but hindsight is 20/20. I had a plan, and taking a trap was part of my backup.

Once on deck, I wound up waiting over an hour in the jet for the tow job, which is what I sought to avoid by not taking the trap in the first place. My reluctance to sit in the arresting gear for an hour had clouded my judgment. I had formed a solid game plan, stuck to it, and executed it to get the jet on deck. 

Cdr. Imerman is the executive officer of VFA-147.

Those Helos Weren't There a Minute Ago

by Ltjg. Matthew Crump

In the spring of 1996, I was a low-time civilian pilot looking for any opportunity to get in the sky and build flight time in the Cessna 170B. One Saturday, the conditions were not ideal: VFR, with ceilings at 3,000 feet and five to six miles visibility. My young daughter was with me, sightseeing and messing around. We'd been flying for about an hour when I decided to bounce a few times at Parker County Airport, which is outside the Dallas-Fort Worth Class Bravo airspace and 11 miles west of NAS Fort Worth. I had my anticollision lights on and was squawking VFR, but not talking to Fort Worth Center or Approach.


I approached the uncontrolled field from the west, and the wind was out of the south. My instructor had taught me that the 45-degree-to-downwind-pattern entry was almost always best. I planned to overfly the field west-to-

east, 500 feet above the pattern altitude, before dropping down to enter. I called CTAF for an airport advisory but got none, so I announced my intentions. Since very old airplanes without radios often use Parker County, I was aware that someone could be in the pattern and not hear me, so I kept looking below as I crossed the field.

Obviously, I was looking down too much. When I finally looked up, my windscreen was filled with two CH-53E Super Stallions booming along in the opposite direction. My heart came into my throat, both from fear and from the negative-G maneuver that followed. I passed perhaps 200 feet beneath the leader.

I continued my pattern entry, turned south, and looked to my right to see what the big helos were doing. They hadn't deviated from their course one bit. I don't think they ever saw me. I gave up on my bounces and landed. I shut down and walked it off, showing my daughter some of the interesting old planes and waiting for the shakes to pass.

The encounter took only a few seconds, but the lesson was huge. I thought I was controlling every risk as I approached the field: I was communicating, squawking and doing my best to be visible and predictable. However, focusing on where I would be in a couple of minutes, I aborted my scan of where I would be in a few seconds. With a closing speed of perhaps 230 knots, those 53s got real big, real fast.

The Super Stallion drivers also seemed to have been VFR, or they would have known I was there. They were flying over a published (and highly visible) airport under 1,500 foot AGL. Nothing wrong with that, but it should certainly be an area to expect the presence of bug-smashers. Next time you're in that situation, tuning up the CTAF wouldn't be a bad idea, and keep your eyes open. 

Ltjg. Crump is an intelligence officer at the National Airborne Operations Center, Offutt, AFB.



SELF-LOADING LUGGAGE



by Capt. Randolph L. Winge, USAF

No one expects to have a "There I was..." story early in his or her flying career. Those tales are for the crusty old codgers with thousands of hours under their belts, who, for the price of a drink at the club, will pass on their wealth of knowledge to the next generation of flyers. Nonetheless, there I was, a nugget weapon systems officer (WSO) in the F-111 replacement training unit with just such a story.

It was my second training flight in the venerable Aardvark. My pilot, an experienced instructor, briefed the mission to be a local low-level dumping into Melrose Bombing Range for target familiarization, followed by multiple approaches to home field. Because it was my second flight in the Vark, the pilot spent extra time covering crew coordination, ORM issues, and his expectations of me as his WSO. The two-hour, low-level went as briefed, and we soon were back in the traffic pattern overhead Cannon AFB, N.M. During the eleventh lap in the pattern, I cried uncle, and the pilot agreed to make the next approach the last. Little did I know at the time how prophetic he was.

For the final go-around, the pilot decided to re-enter for a 5-G approach-and-break. Everything went textbook perfect. About 90 degrees into the turn, the pilot made one of the four comments that right-seaters never want to hear from their pilots. He said, "Oh ...," and I scanned the instruments to determine what was wrong. I discovered we had lost a generator, a common enough problem in the Vark. "It happens a lot," he explained. "Normally we would declare an emergency, but we'll just continue to a

full-stop." Prepared by a dozen emergency-simulator rides, I immediately reached for my checklist. By the time I found the right page and just about the time we rolled out on final, I heard the second, third and fourth phrases that right-seaters never want to hear, "Oh ...," followed by an ever popular four-letter expletive, followed by, "We're not going to make it," and finally, "Bail out, huh..."

I'm pretty sure he had intended to say it three times, but all power cuts out when the capsule ejects from an F-111. I distinctly remember seeing the horizon roll three times before coming to rest and seeing the burning wreckage of our jet 50 feet in front of us. We were OK, but what had happened?

We had lost an engine because of a fuel-pump blockage as we rolled off the perch. Both throttles were cut to idle until we were established on final, and the sink rate was too high for a single engine to overcome. The only glaring indication of the problem was the loss of a generator. Had we rolled wings level after losing the generator, we might have saved the jet. The pilot's decision to take it to a full stop was a result of overconfidence (he had seen this problem many times before). My inexperience didn't help matters.

Six years and 1,000 flight hours later, I look back and am amazed at what he and I did. If I had just taken the time to finish my scan of the instruments, would I have seen the indications of a failed engine? Why had I put so much faith in my pilot's knowledge of the platform, rather than working out the problem for myself? Was I just self-loading luggage? A passenger in a crew position?

Capt. Winge flies with VAO-112.

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Ltjg. Crump is an intelligence officer at the National Airborne Operations Center, Offutt AFB.





by Capt. Randolph L. Winge, USAF

No one expects to have a "There I was..." story early in his or her flying career. Those tales are for the crusty old codgers with thousands of hours under their belts, who, for the price of a drink at the club, will pass on their wealth of knowledge to the next generation of flyers. Nonetheless, there I was, a nugget weapon systems officer (WSO) in the F-111 replacement training unit with just such a story.

It was my second training flight in the venerable Aardvark. My pilot, an experienced instructor, briefed the mission to be a local low-level dumping into Melrose Bombing Range for target familiarization, followed by multiple approaches to home field. Because it was my second flight in the Vark, the pilot spent extra time covering crew coordination, ORM issues, and his expectations of me as his WSO. The two-hour, low-level went as briefed, and we soon were back in the traffic pattern overhead Cannon AFB, N.M. During the eleventh lap in the pattern, I cried uncle, and the pilot agreed to make the next approach the last. Little did I know at the time how prophetic he was.

For the final go, we departed the pattern to re-enter for a 5-G, approach-end break. Everything went textbook perfect. About 90 degrees into the turn, the pilot made one of the four comments that right-seaters never want to hear from their pilots. He said, "Uh oh." As I scanned the instruments to determine what was wrong, I discovered we had lost a generator, a common enough problem in the Vark. "It happens a lot," he explained. "Normally we would declare an emergency, but we'll just continue to a

full-stop." Prepared by a dozen emergency-simulator rides, I immediately reached for my checklist. By the time I found the right page and just about the time we rolled out on final, I heard the second, third and fourth phrases that right-seaters never want to hear, "Oh," followed by an ever popular four-letter expletive, followed by, "We're not going to make it," and finally, "Bail out, buh..."

I'm pretty sure he had intended to say it three times, but all power cuts out when the capsule ejects from an F-111. I distinctly remember seeing the horizon roll three times before coming to rest and seeing the burning wreckage of our jet 50 feet in front of us. We were OK, but what had happened?

We had lost an engine because of a fuel-pump blockage as we rolled off the perch. Both throttles were cut to idle until we were established on final, and the sink rate was too high for a single engine to overcome. The only glaring indication of the problem was the loss of a generator. Had we rolled wings level after losing the generator, we might have saved the jet. The pilot's decision to take it to a full stop was a result of overconfidence (he had seen this problem many times before). My inexperience didn't help matters.

Six years and 1,000 flight hours later, I look back and am amazed at what he and I did. If I had just taken the time to finish my scan of the instruments, would I have seen the indications of a failed engine? Why had I put so much faith in my pilot's knowledge of the platform, rather than working out the problem for myself? Was I just self-loading luggage? A passenger in a crew position?

Capt. Winge flies with VAQ-142.

Welcome to the Fleet, Have

by Lt. Nick Green

Ten days out of the Prowler FRS and I was scheduled to participate in a once-in-a-lifetime bagex for three days, here in the Puget Sound, just a few minutes flying time from NAS Whidbey Island. As the new guy, I was scheduled as the priority player for the first two days of this good deal, then they'd let me start working on my LSO qual on day three.

I guess they didn't trust me to fly during the tiger cruise. No problem, I still was psyched. My first four hops in the fleet were bouncing at Whidbey, and my fifth was the bagex. All I had to worry about was flying the ball and building experience around the boat. Could it get any better? Well, yes, they could hot-pump us on the flight deck for more traps, but the ship said no pumping gas with tigers on board. We would get one bag of gas, and when we hit hold-down we would be sent home.

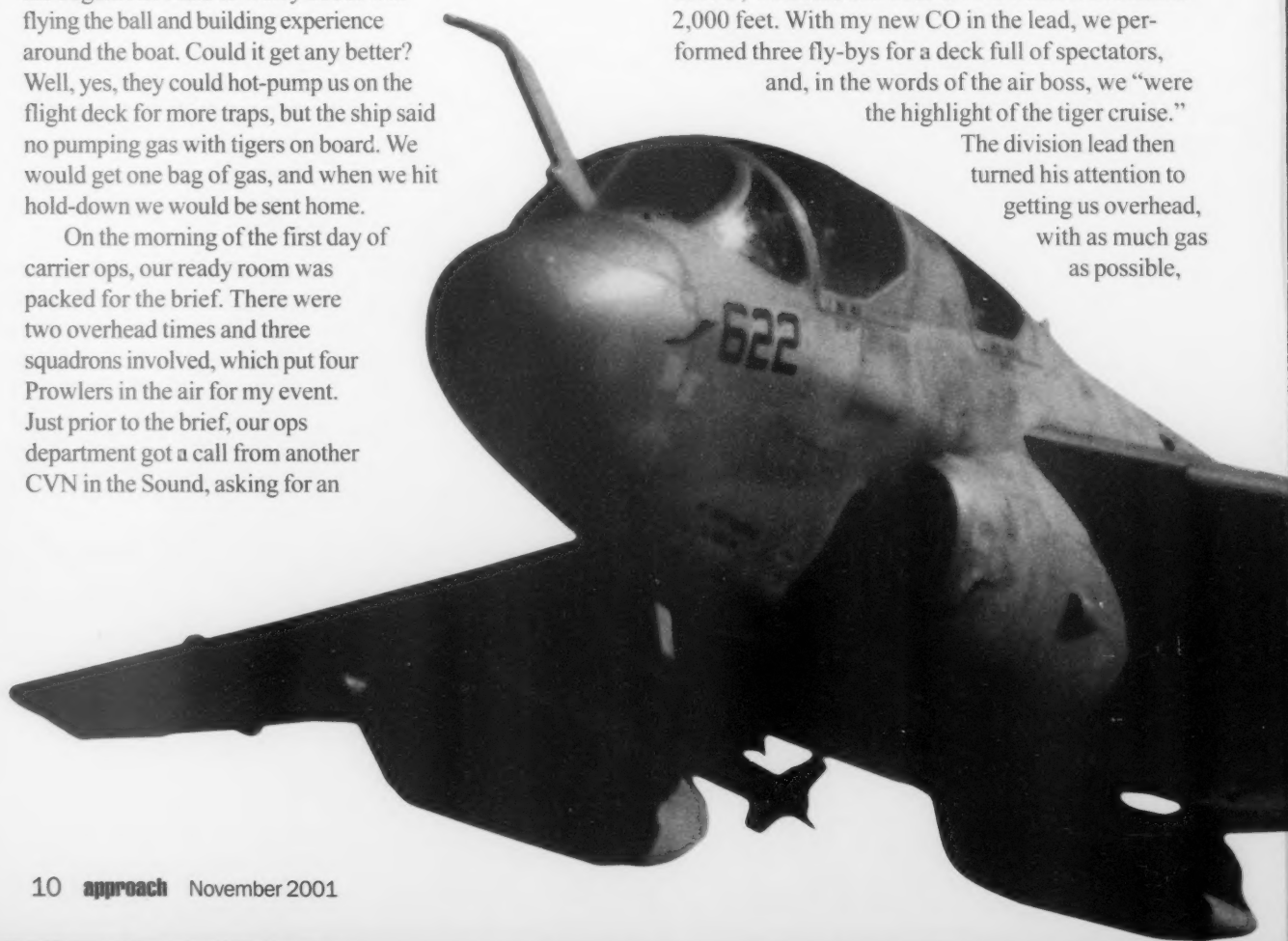
On the morning of the first day of carrier ops, our ready room was packed for the brief. There were two overhead times and three squadrons involved, which put four Prowlers in the air for my event. Just prior to the brief, our ops department got a call from another CVN in the Sound, asking for an

airpower demonstration for their tiger cruise (can you believe it?). Eight loud-and-low Pratt & Whitney engines should do it. We planned a division fly-by in a diamond formation to please the crowd, maybe twice if gas permitted, then on to the bagex. I really was psyched.

We walked and started on time, with one jet dropping out of the fly-by for gas reasons. Three Prowlers still would look pretty good with Victoria, B.C., and the Olympic Peninsula as a backdrop. The launch and rendezvous were well-executed, and, with the weather CAVU, we could see both CVNs when we reached 2,000 feet. With my new CO in the lead, we performed three fly-bys for a deck full of spectators,

and, in the words of the air boss, we "were the highlight of the tiger cruise."

The division lead then turned his attention to getting us overhead, with as much gas as possible,



We Got a Good Deal for You!

for our real objective. We immediately were given a charlie signal and headed down to the break at max trap. So far so good.

Everything went well until my fourth trip to the catapult, where a final checker noticed a hydraulic leak. We were spun off the cat, and the maintainers found a problem with the starboard, flight-hydraulic pump that was small enough not to register on the cockpit gage. Meanwhile, the other Prowlers were continuing the bagex, getting down toward hold-down fuel, and then heading home, just 30 miles away. We were the last jet on the deck when maintenance cleared us for a one-time flight home. We were close to hold-down, so it wasn't a big loss. I'd already gotten three traps and the first fly-bys of my career. I still had a huge grin behind my mask. A CAVU day in the Puget Sound, in March, with two carriers asking us to help them with tiger cruises. What were the odds?

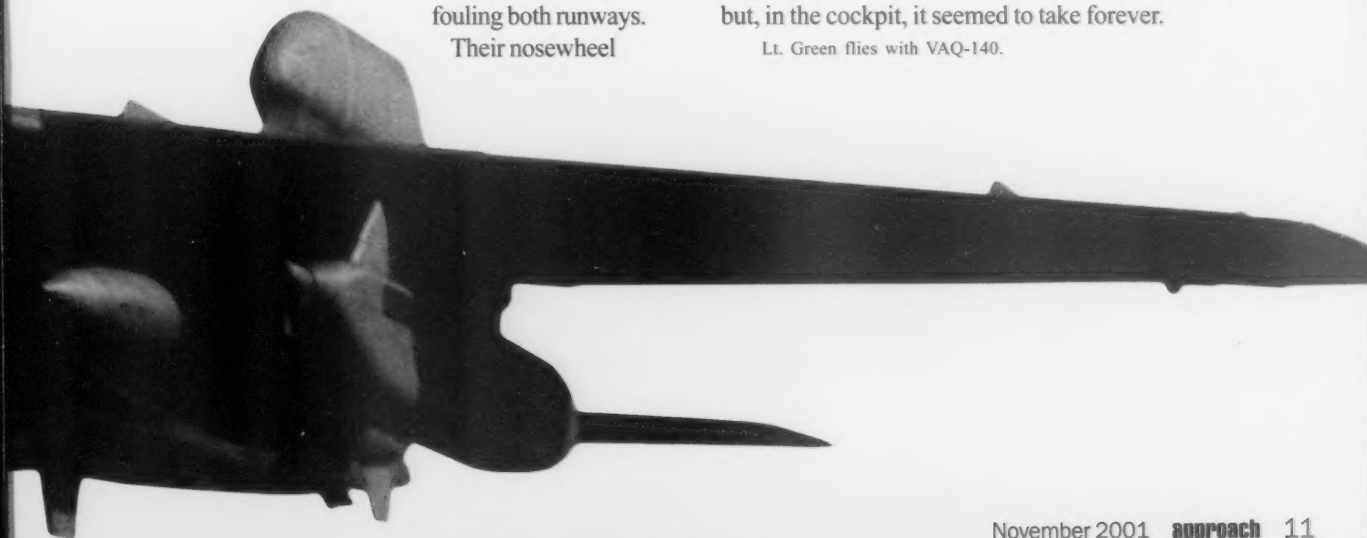
While we were preparing to launch with our weak hydraulic system, a drama began to unfold at home field. With our CO's jet safely on deck, a different squadron's Prowler blew a mainmount at the runway intersection, leaving plenty of FOD and fouling both runways. Their nosewheel

steering was disabled by the sudden turn, and they were unable to clear the intersection. We were still talking to approach control, heading toward the field at nine miles when I got the call to turn south and climb for max conserve. We were No. 2 and the other bagex Prowler ahead of us (a low-fuel one from earlier) was now so low on fuel that it was in danger. This good deal hop quickly was losing its shine.

We had 10 minutes before committing to the bingo profile to our divert field. The hydraulic leak hadn't been too much of a problem until this point; it had cost me some traps, but now it meant that if we had to divert, the aircraft would be down, awaiting maintenance. We relayed our situation to approach control, who was anxious to divert us, even asking if the CVN was suitable. Imagine that, diverting from home field to the boat! That was out of the question. We held out as long as possible, and, just as we got a vector south toward the divert airfield, the runway was cleared and the field reopened. We turned north, contacted tower, and landed.

Our low-fuel ops had reduced our margin of safety. That margin was tested by the unexpected closure of both runways on a CAVU day. The ground personnel were able to quickly remove the offending jet from the intersection, but, in the cockpit, it seemed to take forever.

Lt. Green flies with VAQ-140.



Are You Sure About That?

by Lt. Michael B. Carson

It was the last WestPac of the millennium, and I was the new guy in town. The squadron was flying over 500 hours per month during our deployment to the Arabian Gulf. Everyone was working, flying and playing hard. We were getting a new CAG helo guy to help us out by pulling some of the load.

CAG helicopter representatives routinely are tasked with augmenting the squadrons in the air wing. Ours was new to the job but was an experienced pilot. He had over 1,000 hours in Sikorsky aircraft, a tour as an FRS instructor, and was among the first helicopter pilots to go through the Weapons and Tactics Instructor course at the Naval Strike and Air Warfare Center in Fallon, Nev.

It was a beautiful, clear day in the Gulf. I recently had survived my H2P board (helicopter second pilot for you non-rotor heads out there). I felt good about myself and looked forward to an exciting hop—that's defined as anything other than plane guard for us. I was to fly a cool helicopter aerial-gunnery exercise. We typically take off with a couple thousand 7.62 mm tracer rounds, two M-240 machine guns capable of firing 900 rounds per minute, six replacement barrels, and several naval aircrewmen who need practice at killing things. All we would be killing today was a Mk-58 marine locator marker, but we were amped up anyway.

We were 15 miles from the CV and ready to rock and roll. The crew chief tossed the target smoke out the door and reported it lit. This would be fun!

I was in the right seat, usually the aircraft commander's position for this event, and had the flight controls for most of our gun runs. The first two runs were smooth as glass. We made our strafing runs into the wind at 120 knots, ball centered, and left-hand turns. The machine gun was mounted in the cabin door on the right side of the aircraft. Coming off the third run, I snapped the aircraft to the left on crosswind. Bam! Bam! Mini-explosions, like so many cluster bombs, were coming from the left side of the aircraft.

My first thought was that we had a runaway gun, left side. I leveled the wings, scanned the engine instruments, and realized there was no gun on the left side.

Then it hit me: compressor stall. Execute critical memory items. Engine indications normal. What to do? Head for home. Turning for the ship, my mind racing. Inform crew. Done.

"I have the controls. Pocket checklist," the pilot said. A sense of relief swept over me. I was safe now, or so I thought.


I asked myself, "What are my primary responsibilities as the copilot?" I had to back up the pilot at the controls. I was deep into the



checklist. Single-engine procedures call for dumping fuel, if required. Boy, did I want to dump fuel. After all, we just had lifted off with 4,500 pounds of gas 15 minutes ago, and it was summer in the Arabian Gulf. Helicopter aerodynamics are all about power required versus power available. It doesn't take a genius to figure out engines will give you only a finite amount of power, and, the heavier you are, the more power will be required to lift you. If we lost the left engine, we would have to swim for it because we wouldn't have enough power to fly with one engine. I wasn't interested in swimming.

I suggested we dump fuel, but I was rebuked. The PAC had other things on his mind. He was talking to the boss, requested landing as soon as

possible and flying the aircraft back to the boat. I said, "Are you sure about that?" I strongly felt dumping fuel was the right thing to do to minimize our power required for landing. Rebuked a second time, I let it slide and moved on to the before-landing checklist. We were going home in our present configuration.

We landed with no further incidents. Our story could have ended much differently. I had let the classic barriers to communication—age, rank and experience—cloud my judgment. As discussed in the debrief, dumping gas would have been the right decision to make. When you're in a critical situation, and you know you're right, stick to your guns, and do the right thing. 

Lt. Carson flies the SH-60F and HH-60H with HS-2.

It was a warm, late June day off the coast of Jacksonville, Fla., a perfect day to kick fledgling carrier naval aviators out of the nest with a steel-toed boot. I was about to join the proud tradition of tailhook aviation in a T-45C, bagging my first carrier landings aboard USS *George Washington*. Ten traps, four touch-and-goes, and a few ACM flights were all that stood between me and the Wings of Gold.

As one of the first classes to CQ in the T-45C, we had added incentive to perform. I didn't want to be the first student to DQ in the new

platform. The "Super Goshawk" model has a cockpit layout similar to the FA-18, complete with a working HUD and velocity vector.

The plan was to get two touch-and-goes and six traps the first day and finish the requirements the next day. I drew lucky No. 113 for my machine and set out to do some good work. I didn't intend to tie the low-altitude record.

Launch, rendezvous and marshal were completed without incident. Before I knew it, I was abeam the ship. Coming around the 90 and peeking at the carrier for the first time is something I never

Climb! Climb! Climb!

by Lt. Justin Hendrickson



Coming around the 90 and peeking at the carrier for the first time is something I never will forget.

will forget. My first touch-and-goes and traps, though maybe not spectacular from the LSO platform, were thrilling for me. We listened to lots of lectures on the dangers of the catapult launch, and we knew where our feet, hands, trim, flaps, and everything else were supposed to be. The raw power of the cat stroke was an eye-opener every time I went down the track.

Halfway through my first-day requirements and below hold-down, I signaled the yellowshirts and was sidelined for fuel. This short break gave me a chance to reflect on my last couple passes, watch a few of my buddies' traps, and triple-check my takeoff checklist.

After refueling, I taxied to the bow cats and readied for another launch.

The cat shot was as strong and exhilarating as the previous couple, which was why my brain stem could not reconcile what was happening to my jet as the deck disappeared behind me: a full settle off the cat.

Time stopped. I looked at my airspeed, and saw I had plenty. What the heck was happening? I faintly heard someone screaming in my headset, "Off the cat: Climb! Climb! Climb!" I was afraid that if I pulled back too hard, I would stall, even though I had enough airspeed.

After carefully milking the aircraft up to pattern altitude and drilling upwind, I heard a lead-safe whisper, "Turn," in my headset. That snapped my attention back from almost flying into the water. I focused on landing again. After an uneventful trap, I was sidelined. My mind raced over every detail of the last cat shot, trying to figure out what had just happened.

About the time my squadron tower rep (who surely had just been chewed up and spit out by the Air Boss) asked me what had happened, it had dawned on me what I'd done wrong. "Sir, I accidentally ran the trim down during the cat stroke," I

explained. In the T-45, you're supposed to cup your right hand in a "U" shape just aft of the stick. When the holdback fitting released and my jet exploded forward, my hand, out of surprise, inexperience or fear, grabbed the top of the stick. My fingers curled over the top of the stick with the trim button squarely under my palm, getting the black squeezed out of it. To my surprise, the ship's skipper didn't end my short naval-aviation career right then and there. I was allowed to finish my last couple of traps for the day.

The first thing everyone wanted to see after I landed back at NAS Jax was my HUD tape to see how low I had settled. Unfortunately, the tape



Photo by Matthew J. Thomas

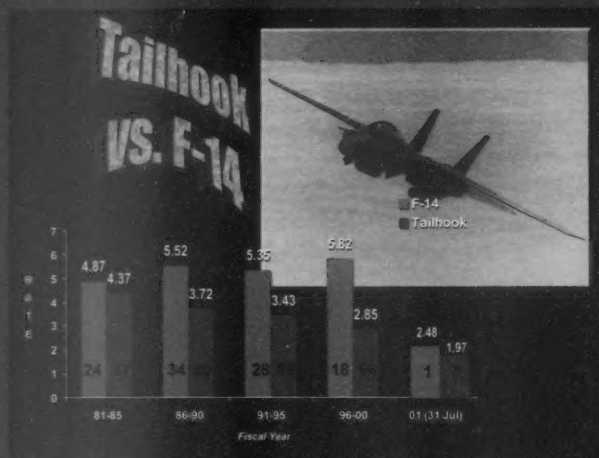
The "Super Goshawk" model has a cockpit layout similar to the FA-18. Proper hand placement on the controls is critical.

malfunctioned, but a lead-safe orbiting above told me my jet had left a wake in the water that was longer than the carrier. Because of bad weather, I had the entire next day to sit and ponder my fiasco. The weather cleared, and, after a pep talk from a few IPs, I went out and got my qual.

For students in advanced flight training, the major focus of the CQ phase is performance behind the boat, but your performance in front of the boat is equally important. It will kill you just as quickly.

Good habit patterns keep aviators—especially the single-seaters—out of the water and on the 3-wire. I'm riding the stroke these days with my right hand wrapped tightly around the Hornet's "towel rack" and nowhere near the trim button. ✈

Lt. Hendrickson flies with VFA-15.



Where Do You Stand?



At the Tailhook Convention in Reno, Nev., on August 17, 2001, RAdm. David Architzel, Commander, Naval Safety Center, discussed the state of naval aviation.

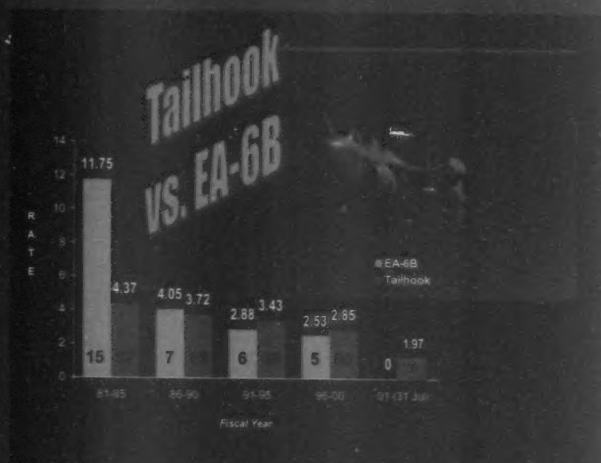
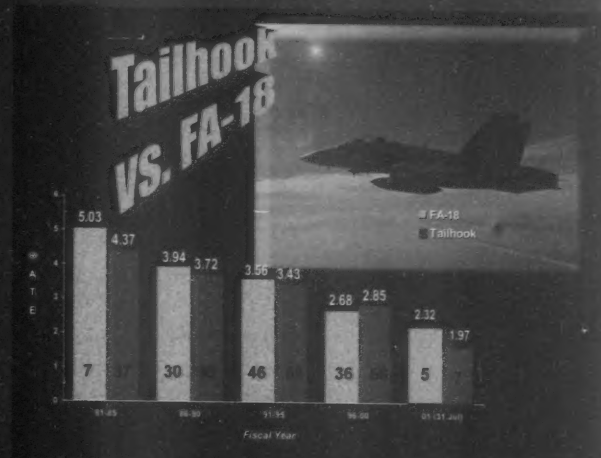
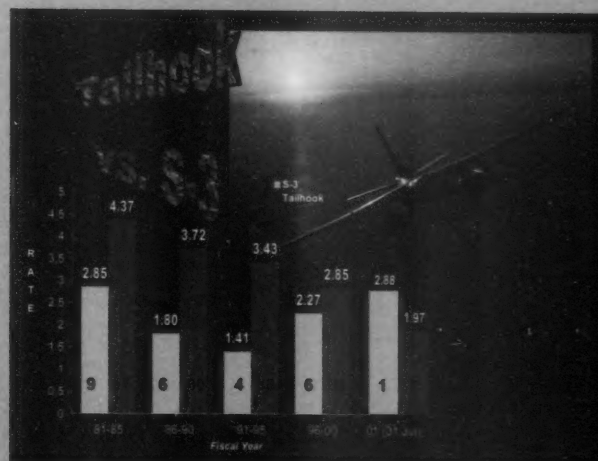
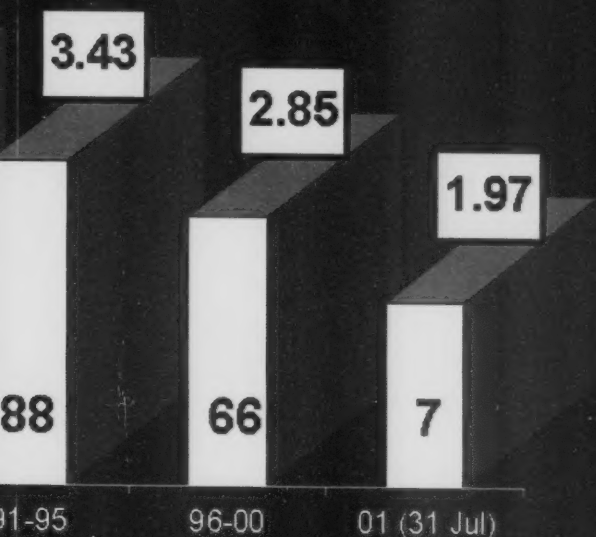
According to RAdm. Architzel, even though declining mishap rates are cause for celebration, current rates of aircraft acquisition will not replace the destroyed aircraft.

Also, in spite of the downward slope of mishap rates, the cost continues to increase.

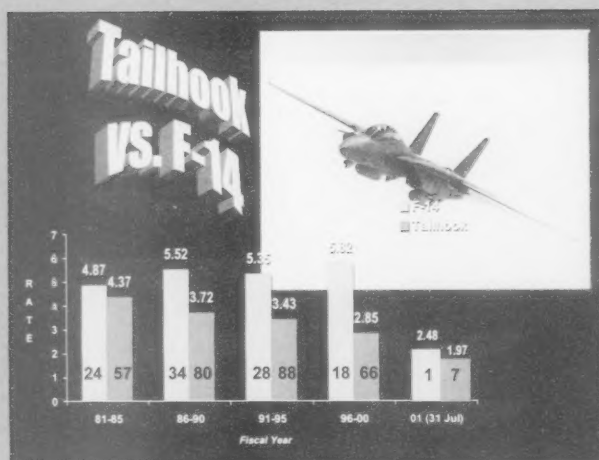
RAdm. Architzel compared mishap rates for five types of aircraft against mishap rates for other Tailhook-class aircraft. As you can see, some communities are doing better than others. If you fly one of these planes, check where you stand.

(Note: From the time these slides were prepared to the end of the fiscal year, we lost one F-14 and 2 FA-18s)

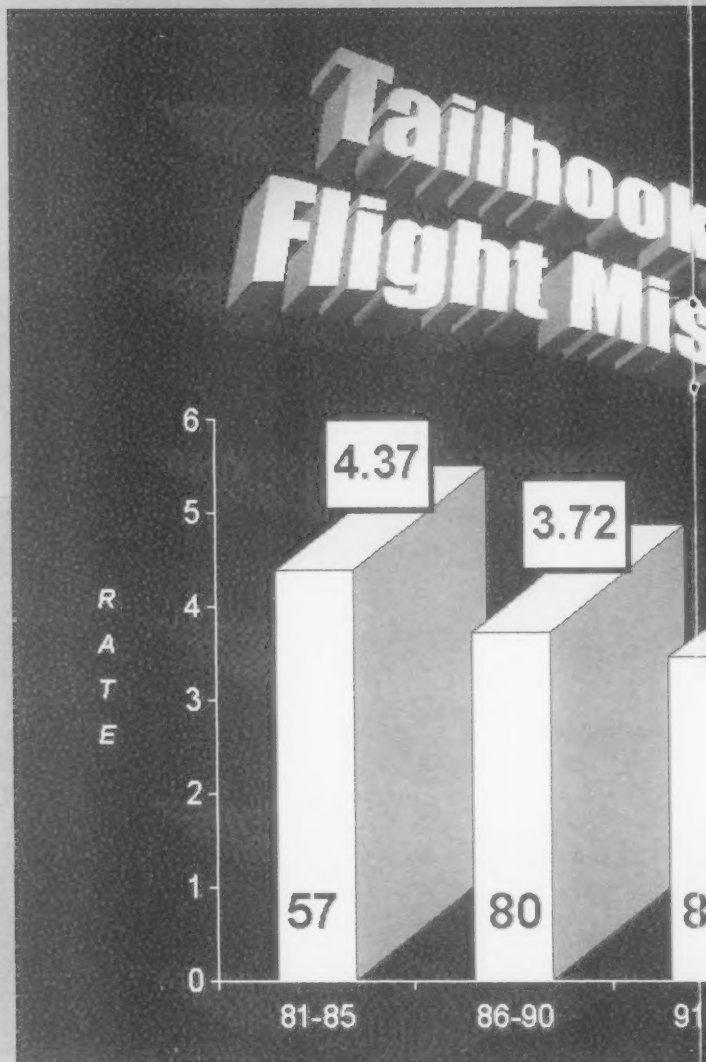
Class-A Shape Rate



Information provided by Strategic Design and Marketing
Department, Defense Systems Center



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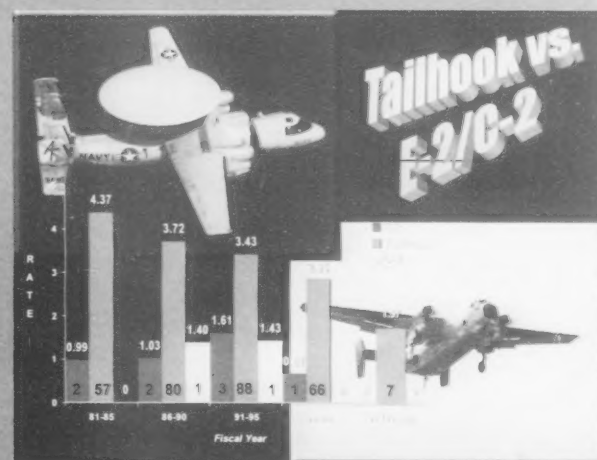
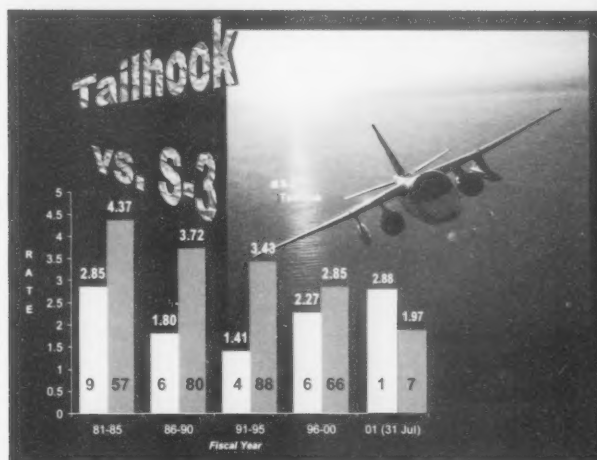
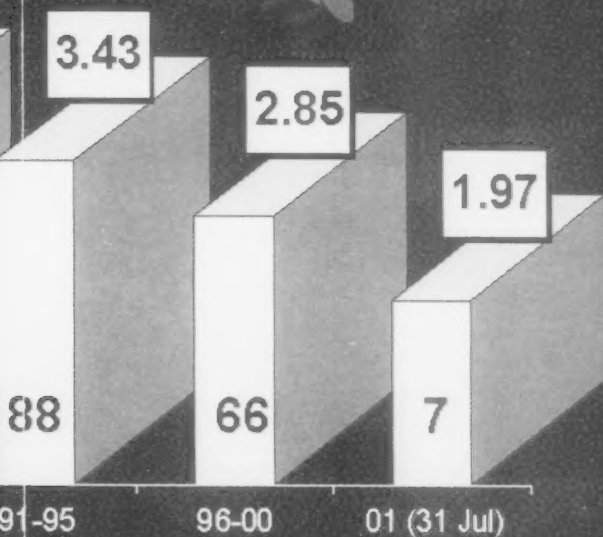
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Class-A Shape Rate



Information provided by Strategic Vision and Marketing Department, Naval Safety Center.

Me?

by Cdr. Ross Myers


control repeated the call that our No. 1 engine was on fire. I scanned the instruments and saw nothing but abnormalities and definitely no fire lights. I looked out the portside and saw nothing, and then I looked inside at the instruments one more time.

This time, the APU fire light started to illuminate. We shut down the APU and activated the fire extinguisher. The fire light went out.

That had been a close one, but wait, here came the crash crew. I told ground control that the fire was out, and we needed no further assistance. I had shut down the No. 2 engine in preparation to pull into the line, which now was blocked by the crash crews. Eager to

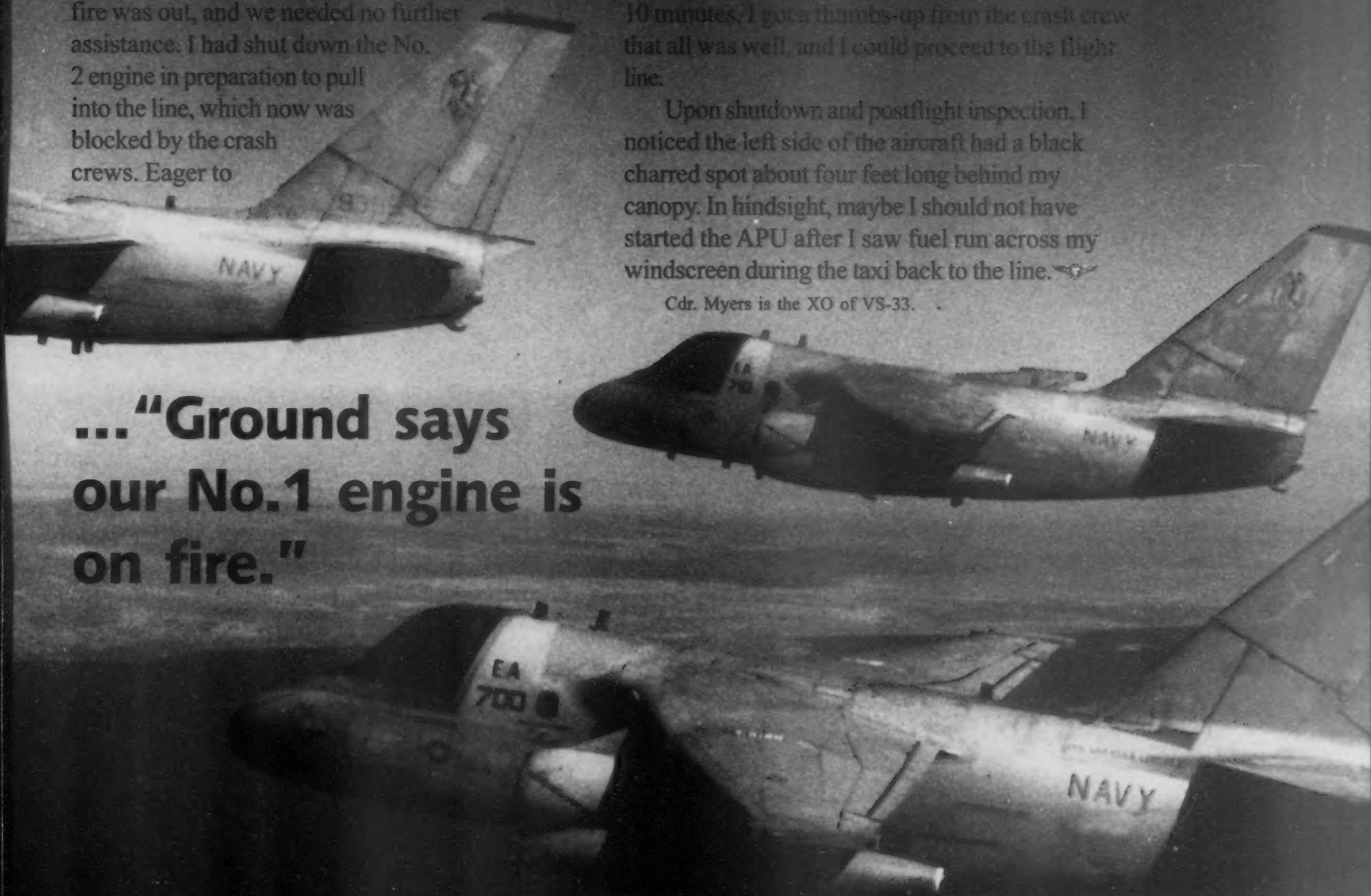
complete their mission and extend the taxi, the crash crew continued until they had pulled me out of the line. I then pulled back the No. 2 engine. I must have lost the fuel line, but I didn't know it at the time. I was just glad to get the engine log anyway. I would have to be able to tell them that would him of the "engine" problem, or that the crash crews were going to spray water down a perfectly good engine.

After a few tense seconds, which seemed like 10 minutes, I got a thumbs-up from the crash crew that all was well, and I could proceed to the flight line.

Upon shutdown and postflight inspection, I noticed the left side of the aircraft had a black charred spot about four feet long behind my canopy. In hindsight, maybe I should not have started the APU after I saw fuel run across my windscreen during the taxi back to the line. 

Cdr. Myers is the XO of VS-33.

**... "Ground says
our No. 1 engine is
on fire."**



Fire—Who

After seven days of dropping bombs and refining our weapon tactics in beautiful Hawaii, it was time to return to sunny California. The day began very early with the loading of luggage and maintenance equipment, since the maintainers were traveling the same day. After completing a brief with the Air Force at zero-dark-thirty, we were delayed to let four Falcons take off first. The Air Force did not want all 10 planes to converge in the same piece of sky over Molokai. Heaven forbid you might rendezvous with the wrong tanker!

The delay was about 30 minutes, and we were finally airborne with a three-ship of S-3s. The rendezvous with the KC-135 tanker was uneventful, as well as the initial drogue check to make sure the tanker was sweet. We were on our way for at least seven hours of flying—it seems we went to Hawaii with a headwind, and we were going home from Hawaii with a headwind.

The boredom of the flight was only broken up with two in-flight refuelings, so it was mind-numbing. My first wake-up call came when we penetrated clouds. They were not very thick, but they did give me a chance to fight fatigue and boredom.

As we approached the outer ADIZ near Southern California, we began to discuss breaking up the flight. The KC-135 had enough fuel to continue to Travis AFB, and the crew was anxious to begin their northward journey. We had used less fuel than anticipated, and they were eager to reach their final destination.

Dash 2 developed oil-pressure problems on the No. 2 engine, and the pilot had to retard it to idle. Now our flight definitely had to break up or slow down, since Dash 2 could not keep up. The KC-135 aircrew began coordinating a direct flight to Southern California with air traffic control (ATC),

while we slowed down to stay together. Maybe he was not going straight to Travis after all.

The Dash 2 pilot kept the engine at idle and monitored the situation. Shortly after getting everything squared away with ATC, Dash 2 developed another problem. The hydraulics for the No. 1 engine had less than two gallons remaining. Thank goodness he had not shut down No. 2 engine, or he would have had no choice but to swim for California. A quick check revealed no hydraulic fluid coming from his port side, but he did have oil all over the trailing edge of his starboard flaps. The No. 2 motor was not doing well but had to remain running since it could be the only source of hydraulics. The No. 1 hydraulic low-level light stayed on, ruling out the use of the emergency hydraulic pump.

Finally, we were in sight of NAS Southern California, and we could break up the flight and let Dash 2 land. Once he was safely on deck, lead and I came into the break and landed.

We were on deck, and all jets were safe, so it was time to head for the O Club. As we called for taxi-to-the-line, I observed we still were up tactical on the back radio. We were getting close to the line and wanted to switch up base radio. I instructed the COTAC to switch radio No. 2 to base. As we made a right turn, fuel ran from my refueling probe door across my windscreen and down the left side of the aircraft.

As we approached the flight line, we started the auxiliary power unit (APU). We had just come to a stop since the lead and Dash 2 were getting their brakes checked, when I heard the COTAC yell, "Ground says our No. 1 engine is on fire." "Who, me?" I wondered. I keyed ground frequency and said, "Say again for Dash 3." Ground



Me?

by Cdr. Ross Myers

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That had been a close one, but wait, here came the crash crew. I told ground control that the fire was out, and we needed no further assistance. I had shut down the No. 2 engine in preparation to pull into the line, which now was blocked by the crash crews. Eager to

complete their mission and extinguish a blaze, the crash crews unrolled their fire hoses and proceeded to aim the fully charged hoses at my No.1 engine. Hurriedly, I instructed the COTAC to exit the aircraft and stop the crash crews from shooting any water. I watched for the slightest indication that would hint of the fire still burning, or that the crash crews were going to spray water down my perfectly good engine.

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Cdr. Myers is the XO of VS-33.

**... "Ground says
our No.1 engine is
on fire."**





Photo by Matthew J. Thomas

by Lt. Wilmer Gange

Being a new HAC can be a trying time for any pilot. Not only do you lack the experience of the older squadron HACs, but you're under pressure, whether actual or perceived, to complete the mission and prove yourself as an aircraft commander. Sometimes, this pressure can motivate you to succeed; other times, it can cloud your judgment and be downright dangerous.

It was a beautiful VFR day in sunny San Diego, and I was a new HAC in the H-46D. I was scheduled to fly a 4.5-hour day-training flight. The first two hours would be day VFR with a lieutenant commander who was new to the squadron but was an experienced H-46D pilot. The remainder would be an IFR training flight with a new H2P. We planned to fly the first event at a local airfield, RTB, refuel, and switch pilots for the second event. We also were scheduled to hotseat to a night event that required an auxiliary fuel tank. I requested the aux tank not be fueled for

the first part of the flight, since we needed a light aircraft for the single-engine practice maneuvers. We checked the aux tank to make sure it was empty during the preflight, and manned up 30 minutes before our takeoff time.

The starting sequence went well until it was time to light off our auxiliary power unit (APU). We hit the switch; the APU sputtered briefly and died. After a brief inspection, maintenance personnel told us the corrective action would take only 10 to 15 minutes. It would take less time to fix the APU than to preflight the backup aircraft. I decided to wait until maintenance completed their work.

The 10-to-15-minute fix became 20 minutes, then 30. When maintenance finally downed the aircraft, it was an hour after the problem occurred and 30 minutes past our scheduled takeoff time. I was a little perturbed and impatient at this point. With our missed takeoff time looming in my head, I instructed the crew to quickly move to the backup

Checked the Aux Tank?

aircraft while I went into maintenance control to discuss our problem.

After a cursory preflight, we started up and launched. Looking at my watch, it was only an hour after our scheduled takeoff time. We had managed to preflight the backup and launch in only a half hour. We proceeded to the outlying field and began our training maneuvers. I was proud of myself; despite our previous setbacks, I expeditiously had gotten our event off the deck. We still would be able to get almost two hours of training for each pilot. This would be more than enough to complete the needed training.

After a few normal approaches and some hover work, my copilot wanted to practice single-engine approaches to the pad. We quickly discussed the simulated emergency and lifted from the pad. Once established in the landing pattern at single-engine airspeed, I pulled the No. 1 engine condition lever (ECL) out of the fly position, effectively causing the aircraft to run on only the No. 2 engine.

We went through the emergency procedures, but we left the No. 1 ECL out of fly to practice landing single-engine. This should have been no problem; we had computed weight-and-balance during the brief, and we had

plenty of single-engine power available. I also had my hand on the No. 1 ECL in case we needed to regain use of the engine. However, as we approached the pad, our rotor rpm began to decay. When we landed on the pad, our rotor rpm had decayed to 80 percent, well below our NATOPS limit of 88 percent. I thought the copilot came into the pad too low and fast and

pulled too much collective at the bottom of the approach. We attempted the maneuver again, but with the same rotor problem. I took the controls and tried the maneuver, with the same results.

The crew and I were confused. It was a nice, cool San Diego day, and we should have had much more power than what was indicated. While we remained on deck to contemplate our problem, the copilot hit on the answer.


"Check the aux tank," he said to the crew chief.

Sure enough, the aux tank was full of fuel. The cause of our rotor-rpm decay instantly became clear. We had been flying single-engine approaches when our aircraft was almost 1,700 pounds heavier than we thought, precariously close to the edge of our single-engine capability.

My biggest mistake had been a direct result of my new HAC mentality. I allowed a perceived operational requirement to rush my preflight decision-making. This resulted in a failure to properly ORM the situation. ORM teaches us to assess all hazards and make risk decisions based on those hazards. What consequences would have resulted if I had instructed the crew to perform a more thorough preflight? We may have lost 15

ORM teaches us to assess all hazards and make risk decisions based on those hazards.

minutes or so off our training time, but we probably would have caught the full aux tank.

Later in the flight we were planning to perform practice autorotations and single-engine HOGE maneuvers, where the extra weight may have proven disastrous. I gladly would have traded 15 extra minutes of training time to prevent that. 

Lt. Gange flies with HC-11.



Photo by Matthew J. Thomas

by Lt. Wilmer Gange

Being a new HAC can be a trying time for any pilot. Not only do you lack the experience of the older squadron HACs, but you're under pressure, whether actual or perceived, to complete the mission and prove yourself as an aircraft commander. Sometimes, this pressure can motivate you to succeed; other times, it can cloud your judgment and be downright dangerous.

It was a beautiful VFR day in sunny San Diego, and I was a new HAC in the H-46D. I was scheduled to fly a 4.5-hour day-training flight. The first two hours would be day VFR with a lieutenant commander who was new to the squadron but was an experienced H-46D pilot. The remainder would be an IFR training flight with a new H2P. We planned to fly the first event at a local airfield, RTB, refuel, and switch pilots for the second event. We also were scheduled to hotseat to a night event that required an auxiliary fuel tank. I requested the aux tank not be fueled for

the first part of the flight, since we needed a light aircraft for the single-engine practice maneuvers. We checked the aux tank to make sure it was empty during the preflight, and manned up 30 minutes before to our takeoff time.

The starting sequence went well until it was time to light off our auxiliary power unit (APU). We hit the switch; the APU sputtered briefly and died. After a brief inspection, maintenance personnel told us the corrective action would take only 10 to 15 minutes. It would take less time to fix the APU than to preflight the backup aircraft. I decided to wait until maintenance completed their work.

The 10-to-15-minute fix became 20 minutes, then 30. When maintenance finally downed the aircraft, it was an hour after the problem occurred and 30 minutes past our scheduled takeoff time. I was a little perturbed and impatient at this point. With our missed takeoff time looming in my head, I instructed the crew to quickly move to the backup

Checked the Aux Tank?

aircraft while I went into maintenance control to discuss our problem.

After a cursory preflight, we started up and launched. Looking at my watch, it was only an hour after our scheduled takeoff time. We had managed to preflight the backup and launch in only a half hour. We proceeded to the outlying field and began our training maneuvers. I was proud of myself; despite our previous setbacks, I expeditiously had gotten our event off the deck. We still would be able to get almost two hours of training for each pilot. This would be more than enough to complete the needed training.

After a few normal approaches and some hover work, my copilot wanted to practice single-engine approaches to the pad. We quickly discussed the simulated emergency and lifted from the pad. Once established in the landing pattern at single-engine airspeed, I pulled the No. 1 engine condition lever (ECL) out of the fly position, effectively causing the aircraft to run on only the No. 2 engine.

We went through the emergency procedures, but we left the No. 1 ECL out of fly to practice landing single-engine. This should have been no problem; we had computed weight-and-balance during the brief, and we had

plenty of single-engine power available. I also had my hand on the No. 1 ECL in case we needed to regain use of the engine. However, as we approached the pad, our rotor rpm began to decay. When we landed on the pad, our rotor rpm had decayed to 80 percent, well below our NATOPS limit of 88 percent. I thought the copilot came into the pad too low and fast and

pulled too much collective at the bottom of the approach. We attempted the maneuver again, but with the same rotor problem. I took the controls and tried the maneuver, with the same results.

The crew and I were confused. It was a nice, cool San Diego day, and we should have had much more power than what was indicated. While we remained on deck to contemplate our problem, the copilot hit on the answer.

"Check the aux tank," he said to the crew chief.

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Should I Say Anything?

by Ltjg. Mathew Dodge

As a recently winged naval flight officer at the Hawkeye FRS, one of my duties was to fly in the back of the tube and provide a safety and fire-warning watch during pilot-training hops. Many of us got to be canaries in these pilot-training flights. I never had experienced any emergency in the E-2C, but that was about to change.

My first in-flight emergency occurred during a night-training flight. I was flying with an experienced instructor pilot and a replacement pilot who had just come off several months of being medically down for a broken arm. Our transit to Elizabeth City, N.C., was uneventful. I was monitoring the radios as the instructor grilled the student pilot on aircraft systems and emergency procedures. We shot an instrument approach and entered the landing pattern.

Our first few touch-and-goes went well, considering the student's long layoff from flying. On the third touchdown, I heard something unusual. It wasn't loud, but it definitely wasn't normal. Should I tell the pilots? I questioned whether or not my vast experience in the E-2 would qualify me to speak up. As I contemplated the situation, I heard a voice over the radio from a

Harrier pilot, who also was in the pattern, advising the controller. "Tower, you might want to tell the E-2 in front of me to check their tires. I think they might have blown one." Acting on the radio transmission, I immediately told the pilot about the peculiar sound I had heard on our last touch-and-go.

I broke out the flashlight from my SV-2 to inspect the right mainmount tire. I saw a huge hole in it. As I pulled out my PCL, the pilots already were going through the checklist and coordinating an arrested landing.

The arrested landing at NAS Norfolk was a real show for me. When the right main-landing gear touched down on the runway with its flat tire, the sparks flew by my window. We kept a good scan to make sure nothing had caught on fire when we landed. After the engines were shut down, everyone hurried out of the aircraft. By going through the procedures, we had landed the aircraft

with minimal damage to the airframe and no injuries to the aircrew.

But what would have happened had that Harrier not been behind us?

I thought about that question later. Would I have spoken up and said something about the sound I had heard? The consequences of not saying anything could have been severe. Our pilots had no indication the tire was blown and would have done the next touch-and-go thinking the airplane was 4.0. Anything could have happened with a student pilot landing a plane with a blown tire. Fortunately, it didn't take a real-world catastrophe to teach me a lesson that I already should have known. As a member of the aircrew, you are responsible for reporting anything that happens out of the ordinary. It is not a matter of one's experience level or rank in the airplane.

Ltjg. Dodge is the communications officer in VAW-117.

"Tower, you might want to tell the E-2 in front of me to check their tires.. I think they might have blown one."

Photos by Sgt. Brock R. Kelsey and Matthew J. Thomas
Photo-composite by Allan Arnen

Blue-Water Follies

by Lt. Brian Becker

"Ninety-nine delta easy, report tank-plus-two with position in the pattern."

Not exactly the words the ship and air-wing leadership wanted to hear with the blue-water certification process underway. Catapult four could not be wrapped; the shuttle was stuck forward, making it impossible to land aircraft.

When I heard the call, I was approaching abeam with 5,000 pounds of fuel remaining, well above the tank state of 3,500. My wingman, a nugget who had joined the squadron one week before COMPTUEX, was 400 pounds above my state, and we were fat. The boss assured us it would be fixed in five minutes, so I wasn't worried.

After my third trip around the pattern, I began to wonder what type of minutes the boss was referring to. It had been 12 minutes since the original delta-easy call. The pilot in the first aircraft, a Tomcat, called tank-plus-two. "Roger that one zero five, your tanker seven zero three. Seven zero three, set the hawk." The boss talked to the two together, and the Tomcat pilot reported plugged and receiving.

Waving off for the fourth time, I noticed the catapult crew was still working feverishly on cat 4. I called tank-plus-two and continued around the pattern. A minute later, my wingman reported tank-plus-two. The boss, with a recommendation from the tower rep, set the hawk for my wingman, and he tanked. All five aircraft in the pattern were below tank-plus-two. Two were plugged and receiving and the other three were reporting tank-plus-one. "Ninety-nine Factory [*the airwing tactical callsign*], report bingo-plus-one." The Hornet reported a bingo state of 3.3. That sounded high, so I checked M9 (my divert waypoint) and saw an 85 nm divert. Using my NATOPS bingo cheatsheet, I computed a 2.7.

"Tower, three zero five, I'm showing bingo two point seven."

"Roger that three zero five, we are checking." Thirty seconds later, the boss came up again: "Ninety-nine Hornet, bingo two point seven."

I approached the abeam, called bingo-plus-one, and set myself up for landing, just in case the deck opened. Unfortunately, the crowd still was in the landing area.

"Three zero five, your signal tank, join your playmate," the boss called.

I saw my wingman coming off the tanker, raised my flaps, and accelerated to 250 knots for the rendezvous.

"Seven zero two, say your airspeed," I called. I was at 250 knots with 60 knots of closure as I underran, put the board out, and tried to saddle in behind.

"Seven zero two is a sour tanker," the boss said. What to do now? I was 400 pounds above bingo, 3,000 feet at the abeam, no tanker, and a fouled deck.

"Tower, three zero five, state my intentions." I always wanted to say that.

"Charlie," the boss said.

"I can make it from here," I replied.

"Roger that, the pattern is yours," the boss said.

I deconflicted with my wingman on the aux radio and brought down the aircraft. I was at 2,000 feet, in a deep 90, with a high rate of descent. I called the ball and felt like I made it.

"Wave off, wave off, fouled deck." You have got to be kidding me! All that for a waveoff?

"Three zero five, tower, the pattern is yours. Tomcat approaching the abeam, give way."

OK, last chance, I thought. Climbing through 100 feet, I started my turn and leveled off at 400 feet.



"Tomcat, watch your altitude!" the boss exclaimed. Although we had each other in sight, I am sure it did not look that way from the air boss' perspective. I was level, 400 feet abeam, with 200 pounds to spare. I flew my best 400-foot pattern, intercepted glide slope at the 45, and landed with an OK 2-wire. My fuel gauge showed 50 pounds over bingo.

I learned some lessons.

First, constantly update your bingo-field information. The Hornet has a very reliable, user-friendly INS. It shows bearing and distance to any waypoint with a press of a button. When I return to the ship, day or night, I have the divert waypoint displayed, and I double-check it against what marshal is reporting. Our squadron has a cheatsheet that displays NATOPS bingo numbers in 10 nm increments at varying drag counts and headwinds. Not only can this get you another trip around the pattern (bag ex), but, more importantly, it can keep you from unknowingly flying below bingo fuel.

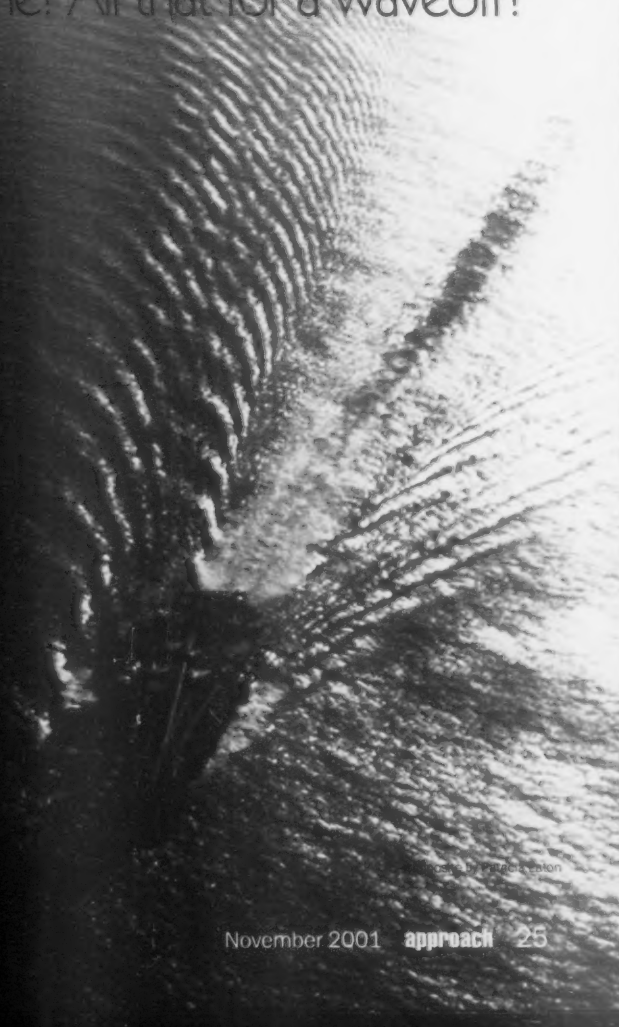
Second, be assertive and take charge when necessary. I knew the initial bingo number was wrong, fixed it, and gave everyone at least one more trip around the pattern.

Third, take tower-rep duties seriously and be prepared for the worst. The rep made a great decision by sending my wingman, a new pilot in the squadron, to the tanker first. Otherwise, he would have been the one to join on a sour tanker, which might have confused him and forced him to divert.

Finally, and most importantly, don't exceed your capabilities. I pressed the envelope, got aboard, and helped the air wing get its blue-water certification. ✈

Lt. Becker flies with VFA-15.

You have to be kidding me! All that for a waveoff?



**I felt like I just
had been kicked
in the learning
curve, and my
heart was in my
throat.**

by Ltjg. Max Miller

Three autumns ago, I was on my third flight in the oh-so-short portion of the NFO familiarization syllabus. This flight put the controls of the T-34 into my hands. It was a fresh, exciting feeling to be flying, and the pungent smell and taste of the exhaust at engine start initiated an ear-to-ear grin that nobody could wipe from my face. I finally was flying in a Navy aircraft! The brief included communications, flight profiles, landing pattern airspeeds, altitudes, power adjustments, configuration changes,

and visual checkpoints. Repeated through ground school, and reinforced in this brief, was the thrice-confirmed positive change of control.

After clearing our part of the airspace, I had the controls for some turns and configuration changes before descending to the outlying field. Once there, I saw the pattern a few times again before it was my turn to command the controls of the Mentor for some touch-and-goes. I fumbled a bit while trying to coordinate trim with power and configuration changes. Communications (still new to me) were a problem, as my concentration was elsewhere. We touched down with too much right

rudder. The right wheel touched first, then the left, and we yawed to the left as power was added, and we took to the sky again. My instructor mentioned my sloppy comms as I brought us toward altitude, and he said, "I have it for the next one."

"Roger, you have it," I replied casually. We banked slowly to the right and leveled 200 feet lower than I expected. I then became party to a commentary that I found odd, even for a green flight student like myself.

Eliminated

"We normally would be turning toward downwind about now," the instructor said.

"Roger," I replied.

"We really ought to climb to pattern altitude," was his next comment.

"Roger," I replied. I was aware he was right and wondered what circumstances warranted the extension of the pattern so far past our interval.

"I have the controls!" he exclaimed. I felt like I just had been kicked in the learning curve, and my heart was in my throat.

"You have the controls," I managed to cough out.

"Roger, I have the controls," he said. Imprecise trim and my last power setting had been piloting the T-34 on that climbout. I felt the temperature rise in my helmet and hardly

fumble? Had he noticed? He wrapped up the debrief and solicited my comments on his instruction style. I decided to bite the bullet, discuss the fumble, and, in the process, learned a valuable lesson. Not only are novices vulnerable to vagueness in communications, but so are the masters. My instructor had seen the symptoms of what had been wrong and had corrected those symptoms by re-introducing me to the landing pattern, but until the debrief, he missed the root of the problem. I had seized upon his casual pronoun and had been convinced it referred to what was most immediately important to me: flying the aircraft. I had been so convinced I compromised our briefed procedures without any genuine concern.

I'm now a nugget ECMO in my first Prowler squadron, enjoying carrier life. The controls are

long out of my hands.

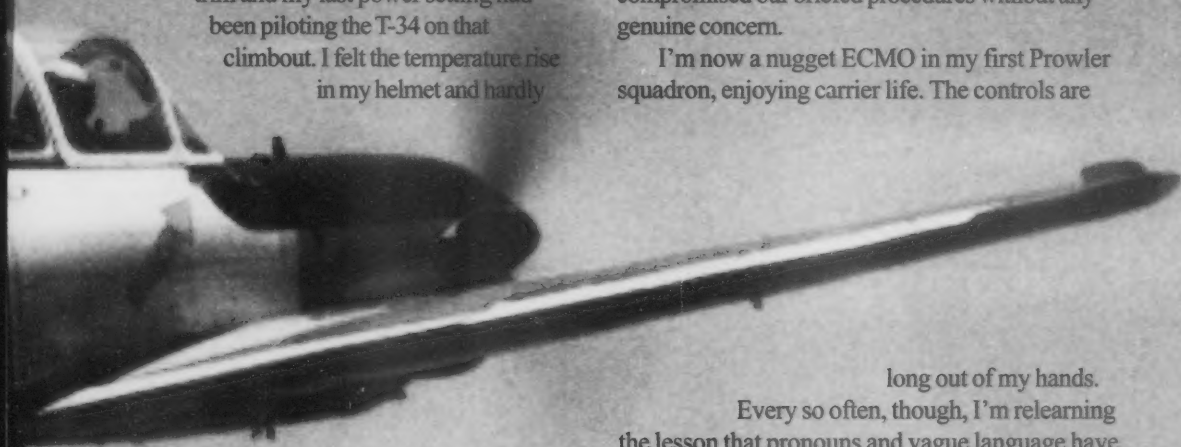
Every so often, though, I'm relearning the lesson that pronouns and vague language have no place in the cockpit. Eventually, casual conversation becomes unprofessional. What seems obvious in the context of your own scan and thought may be different to your crew member, who is looking through very different eyes. I'm still not immune to the problems that produce, in a post-flight debrief, the statement, "Oh, I thought you were referring to [fill in the blank]." Every time I hear that or find myself briefing it to someone else, I remember the morning when I was flying a little closer to the pine trees than I wanted. ✈

Ltjg. Miller flies with VAQ-136.

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instructor was no doubt reinforcing. He led me through the pattern once again before heading back to NPA. My heart beat with conscience-driven intensity, and I mistrusted the calm in my instructor's voice. I just knew I was going to have my tail handed to me on the grade sheet.

At debrief, he never mentioned the control-transfer problem, and he was more than gracious on his evaluation of my pattern work. He fortified what I had learned with a thorough reiteration of his own methods of trim and control. Should I mention our



Vaguely Uncool

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Single-Engine in the Heat

by Lt. Col. Steven S. Starnes

It was a sweltering 140 degrees on the flight deck as we taxied our Prowler to the catapult for a late July launch into the skies of the Arabian Gulf. It was our second week of flying in support of Operation Southern Watch. As a nugget, I was ready for my first front-seat flight into Iraq. My responsibilities during the mission would be navigation, communication and copilot duties. Since we just had arrived in theater, most of the preflight brief was focused on aviating and communicating in the confined airspace of the AOR. My crew had flown together for most of the workups and the first month and a half of deployment. We were confident of our responsibilities in the event of an emergency. As we shot off the cat on our way to deter Iraqi aggression, an in-flight emergency was the farthest thing from my mind.

I managed to keep the nav tight and make the many standard radio calls in and out of country. As we turned feet wet, we gave our Hornet escort the lead to the tanker, knowing he would require fuel before us. We settled on his left wing and let his radar do the work.

We soon spotted our tanker as our Hornets turned aggressively to rendezvous. The Prowler hung in there as we closed within a mile. Just as we were ready to join in left echelon, we heard a series of loud chugs, followed by severe airframe buffeting.

"What was that?" I asked, as I looked over and saw the port rpm, fuel flow, and EGT bottom out by the pilot's left knee.

"I think we just lost our port engine," came the reply, as the master-caution light illuminated and the left generator dropped off-line. The pilot secured the engine and descended away from the tanker stack to gain separation from the other aircraft. The airplane still was shaking as we turned toward our nearest divert, Ahmed Al Jaber Airfield, in Kuwait, 45 miles to the west. We discussed recovering back at the ship, 100 miles to the south but decided it was not an option because the high temperature would produce poor single-engine performance. The low gross weight required for an acceptable waveoff capability would put our fuel state near day tank. The only other possibility would be to jettison our external stores. Since that is the last choice for a Prowler crew, a long runway with arresting gear was the right decision.

Crew coordination became paramount as we diverted. Our pilot began the descent for landing, leveling at 5,000 feet to ensure the performance of our remaining engine. I broke out the checklist and approach plate and talked to approach control. ECMO 2 got on the radios and relayed our intentions, via the E-2 Hawkeye, to the ship. ECMO 3 backed me up on the emergency procedures and descent checklist. We broke out the field at five miles, dumped a little gas, and made a right play to centerline. I managed to get clearance to land at one mile and 500 feet, completing the last step of the single-engine landing checklist about 10 seconds before touchdown. The pilot used the



Photo by A1C Greg L. Davis

The airplane still was shaking as we turned toward our nearest divert, Ahmed Al Jaber Airfield, in Kuwait, 45 miles to the west.

entire available runway in the touchdown zone and took the long-field arresting gear.

The postflight inspection found oil covering the port nacelle and running down the entire empennage. We were fortunate the engine did not fail in flight and cause additional damage (or injure someone from the thrown blades). Five hours later, a helo from the ship dropped off a maintenance team from our squadron and flew us back to the ship.

I credit much of our decision-making to a safety stand-down brief two weeks earlier that had covered single-engine, carrier landings during high temperatures. One of our discussion items was a hazrep in which another EA-6B

crew, in a similar situation, was unable to maintain altitude and was forced to dump below bingo to arrest their rate of descent. These considerations made our decision easy. Besides, it was hard to justify passing up a long runway at an operationally approved divert 45 miles away. Flying with the same crew also helped, as we divided up responsibilities to make efficient use of time. Finally, always review divert data when entering an AOR or any unfamiliar area. Only nine minutes elapsed from engine failure to on deck at Al Jaber, which didn't give us much time to study approach plates. ✦

LT. Sullivan flies for VAQ-132.

When Do Y

by LCdr. Leif Steinbaugh

Everyone has their own lines drawn in the sand when it comes to risk. Some of those lines are inviolate. Some fall into gray areas: areas where the decision is not clear-cut, and where judgment and experience make all the difference. A recent incident made me rethink my lines in the sand.

Our carrier was working off Australia in support of exercise Tandem Thrust '01. The mission was EWCAS in support of Hornets and Tomcats going across the beach. Because of aircraft availability, we had to do a hot refueling and hot switch. Our jet was spotted abreast cat 2, with its exhaust blowing over the side. This would prove to be a factor in the events later.

Since the Prowler is always at the top of the marshal stack, we were in a time crunch to make the next launch. The hot switch went fine, with the backseaters giving me a quick debrief on the status of the jet. I hopped into the ECMO-3 ejection seat and did a quick cockpit wipeout. We then did a cross-bleed start and shut down the right engine so the other ECMOs

could switch out. After that, we did the hot-refueling checklist and waited for the gas to flow. While we were refueling, the pilot completed the point checks with the plane captain (PC).

When the refueling was completed and we had started the second engine, ECMO 2 asked me if I had the RRS tape bag. I replied that I did not. Standard operating procedure for a hot switch required the offgoing crew to leave the bag in the jet, so I expected it to be in the aft cockpit somewhere. We searched but

Our concern was FOD in the cockpit, so we had to find the bag.

ou Cross the Line?

could not find the bag. Our concern was FOD in the cockpit, so we had to find the bag. I informed the pilot of the problem, raised the aft canopy, and signaled for the flight-deck coordinator (FDC) to come up and talk to me. He asked me what he should do if the bag was found in the ready room. I told him the priority was to find the bag, and if possible, to have it for the mission.


Immediately after the FDC climbed down, the yellowshirt took control of the aircraft. The flight deck was in a rush to break us down because we were fouling cat 2, and they couldn't launch the E-2 off of cat 3 because of our exhaust. They broke us down and taxied us aft of cat 1 and held us there. About this time, the yellowshirt handed us off to our PC, who indicated to me to raise the aft canopy. We had armed our ejection seats when we were broken down, so we were sitting on hot seats. I told the pilot of the PC's signal and said I was not going to raise the aft canopy.

Here is where we come to one of my lines in the sand. I will not safe my ejection seat and raise my canopy in a jet that is not tied down to the flight deck. The only thing keeping that jet from moving and going over the side is the brake system, which is powered by hydraulics. If the hydraulics or brakes fail,

that jet would start to move across the flight deck and could go over the side. That is not the type of situation you want to be in with a safed ejection seat and an open canopy.

The PC continued to signal me to open the aft canopy. I kept refusing, shaking my head and giving him the *go fly* hand signal. This confused him even more. The FDC walked up to the side of the jet and showed me the tape bag. I knew they wanted to give me the bag, but I wanted them to tie me down before I raised the canopy. I tried to signal this to them but was unable to get my message across. We then decided to go without the bag, but we couldn't get this across to the FDC, either. The FDC even climbed up the boarding ladder and tapped on the canopy. Even the yellowshirts were signaling to us to open our aft canopy. It was mass confusion for the guys huddled around our jet on the flight deck.

It was obvious to us that we were going to miss the launch unless we did something fast. As the operations officer, I needed a night trap on the pilot. As an aircrew, I needed the flight time. So I crossed my line in the sand. We quickly discussed the options, safed our ejection seats, and I raised the aft canopy. I grabbed the bag about the same time the boss came over the radio and told us to open the aft canopy. We quickly shut the canopy, armed our seats, and taxied to the cat, getting launched just in time.

I learned a few things that night. I succumbed to the external pressures that face all aircrew. Was the night trap that important? No. Was there operational necessity? No. Were we going into combat? No. Was there any reason to increase the risks to the lives of the crew and the maintainers that night? No. 

LCdr. Steinbaugh flies with VAQ-136.

Letters



Approach received several letters to the editor concerning a P-3 article in the July, 2001 issue entitled, "Engine Fire at High Power." The author of the article discussed two maintenance procedures: maximum-power checks, and fuel-governor, pitchlock and reverse-shaft-horsepower checks. Our readers wrote to clarify several of the authors' comments on these procedures.

Cdr. Wayne Bauers, the shore-based fixed-wing analyst here at the Safety Center, and Cdr. Bob Dishman, the P-3 NATOPS Program Manager, took a look at the article and concur with our readers. Here are their comments.

NATOPS addresses the maximum power check on page 13-1 with the following note:

"If conducting a maximum power check in accordance with applicable maintenance manuals as part of a maintenance check, the power levers shall be retarded to flight

idle if the fire warning activates. Engine Fire on the Ground Procedures shall be executed if the fire warning continues."

This note was added to align the NATOPS with the Maintenance Instruction Manuals (MIMs). However, this procedure only applies to a maximum-power check and does not apply to the fuel-governor, pitchlock-reverse horsepower (FGPL) check, which was the case in the *Approach* article.

NATOPS addresses malfunctions during the FGPL check with the following note on page 8-8:

"In the event of a malfunction requiring engine shutdown, excluding an actual fire, secure the respective engine with the fuel/ignition switch."

Neither NATOPS nor the MIMs authorizes a deviation from the requirement to immediately pull the emergency shutdown handle for a fire warning during a FGPL check.

Did you know?

The first aircraft to take off from a ship was in 1910. Eugene Ely flew from an 83-foot wooden platform built over the ram bow of the cruiser USS *Birmingham* in Chesapeake Bay on 14 November. His aircraft was a Curtiss pusher land plane powered by a vertical, four-cylinder, water-cooled 50 hp Curtiss engine.

Two months later, Ely landed on the armored cruiser USS *Pennsylvania* in San Francisco Bay. His feats opened new vistas for naval aviation—and new hazards that would destroy hundreds of aircraft and kill hundreds of carrier aviators. Ely died in a flying accident the following October.

Classic

BROWNSHOES IN ACTION COMIX

"The kind real aviators like"

Contributed by Lt Ward Carroll, VF 32

Safety stand-down time at NAS East...

Man, just off cruise and its already time for a "BOREX."

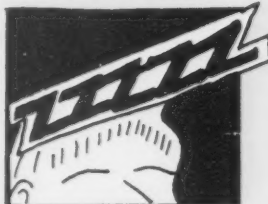
No lie! After landing on USS *Boat* for six months what do we need to learn about safety?



Well dudes, wake me if Vanna White shows up, otherwise, it's sacktime for the kid...



Dangerboy drifts off to the place that only those on the 02-04 alert have ever been...



What happened? Where am I?

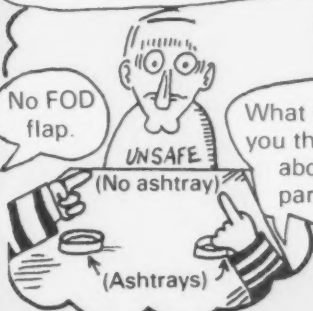
Not another one! Give him the usual "Smoke!"

Roger that, "Flames!"



We start with the eternal long green table...

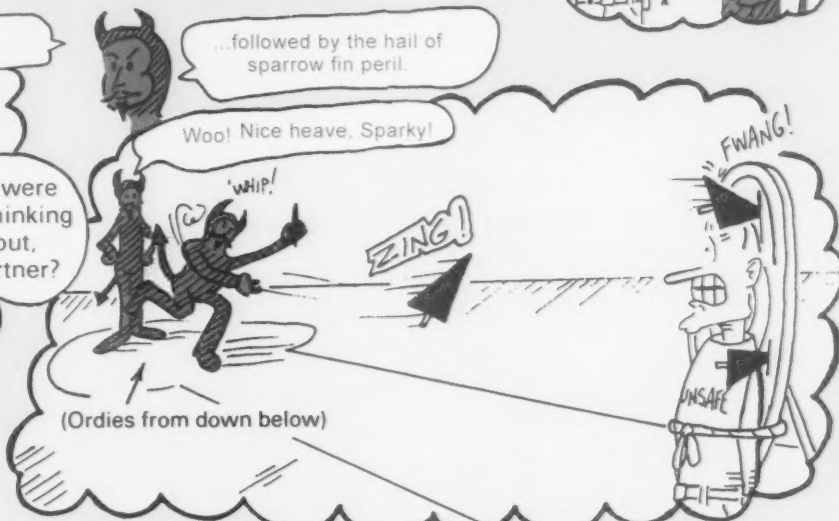
No FOD flap.



What were you thinking about, partner?

...followed by the hail of sparrow fin peril.

Woo! Nice heave, Sparky!



(Ordies from down below)

Face it, Dangerboy, you're in the unsafe inferno forever!

NO! I'LL BE SAFE!



I'll be safe! I'll be safe!

Jeez! Throttle back, Big Guy, FITREP debriefs aren't for another day or two!



Ready Room Gouge



*Never let an aircraft take you
somewhere your brain didn't get to
five minutes earlier.*

www.safetycenter.navy.mil



